

Figure 1

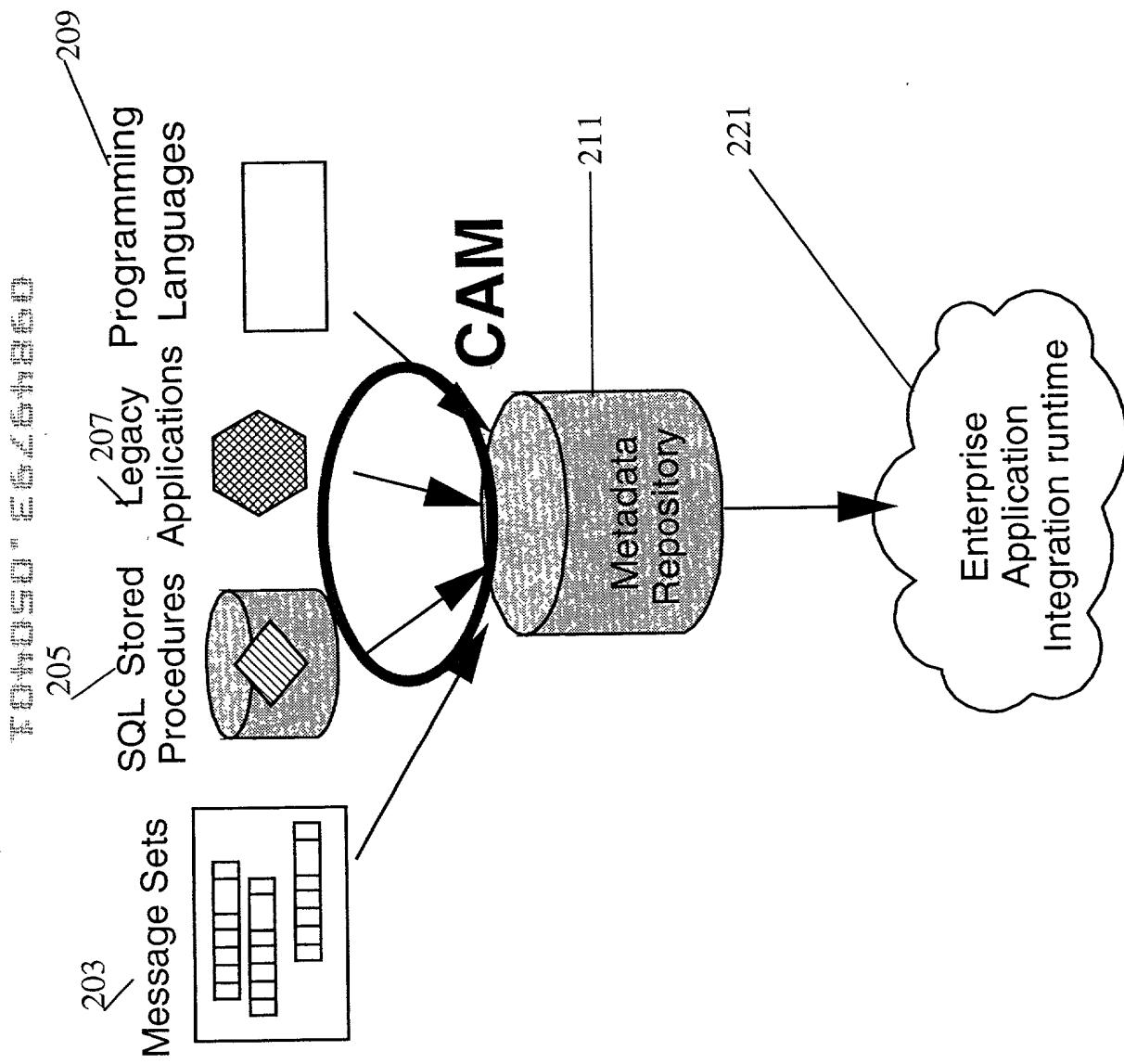


Figure 2

## Common Application Interface Metamodel

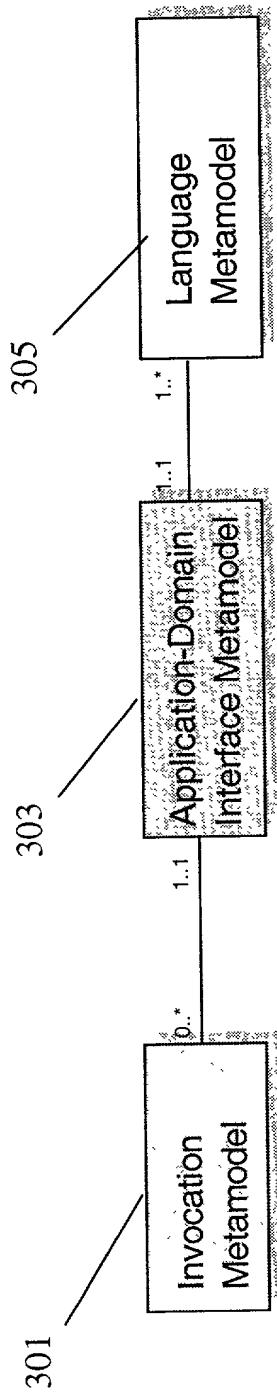


Figure 3

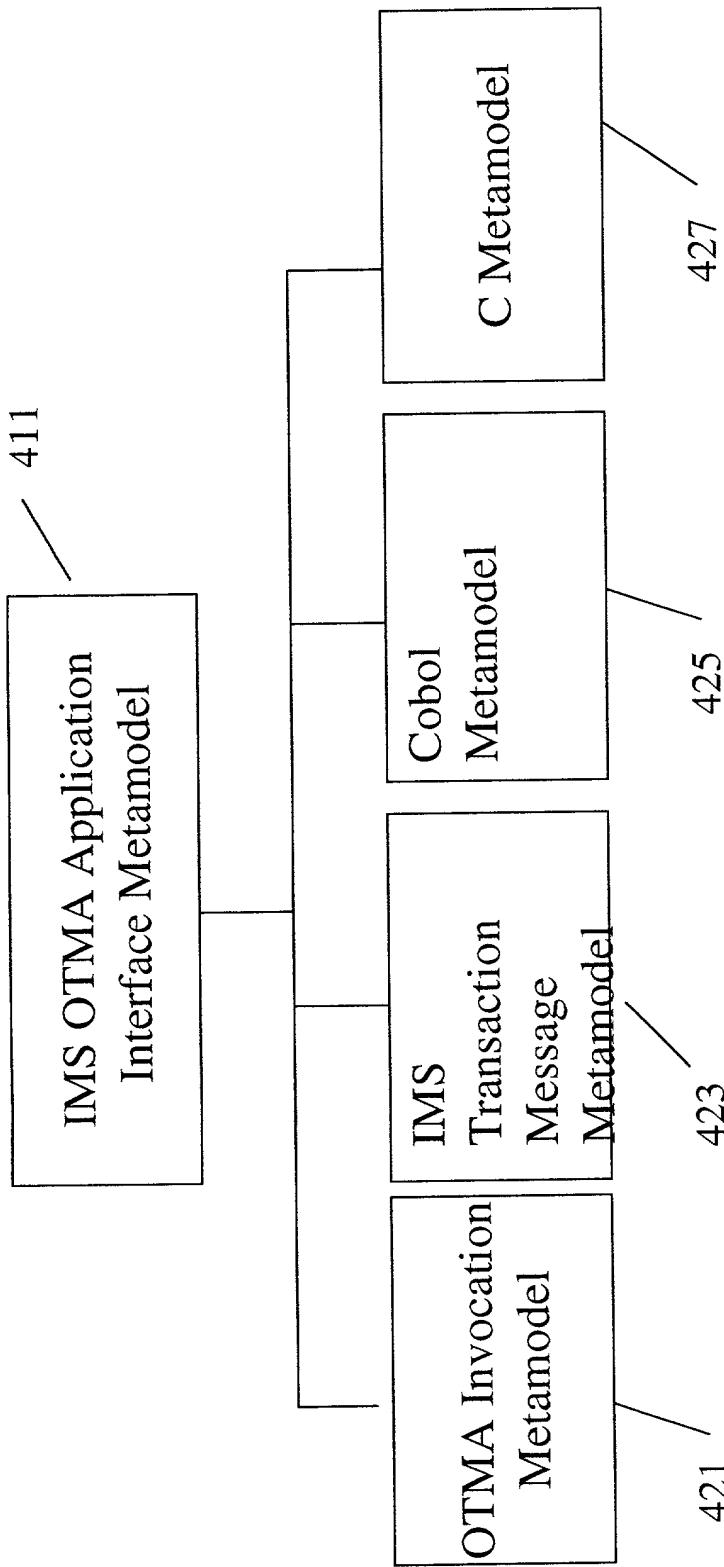


Figure 4

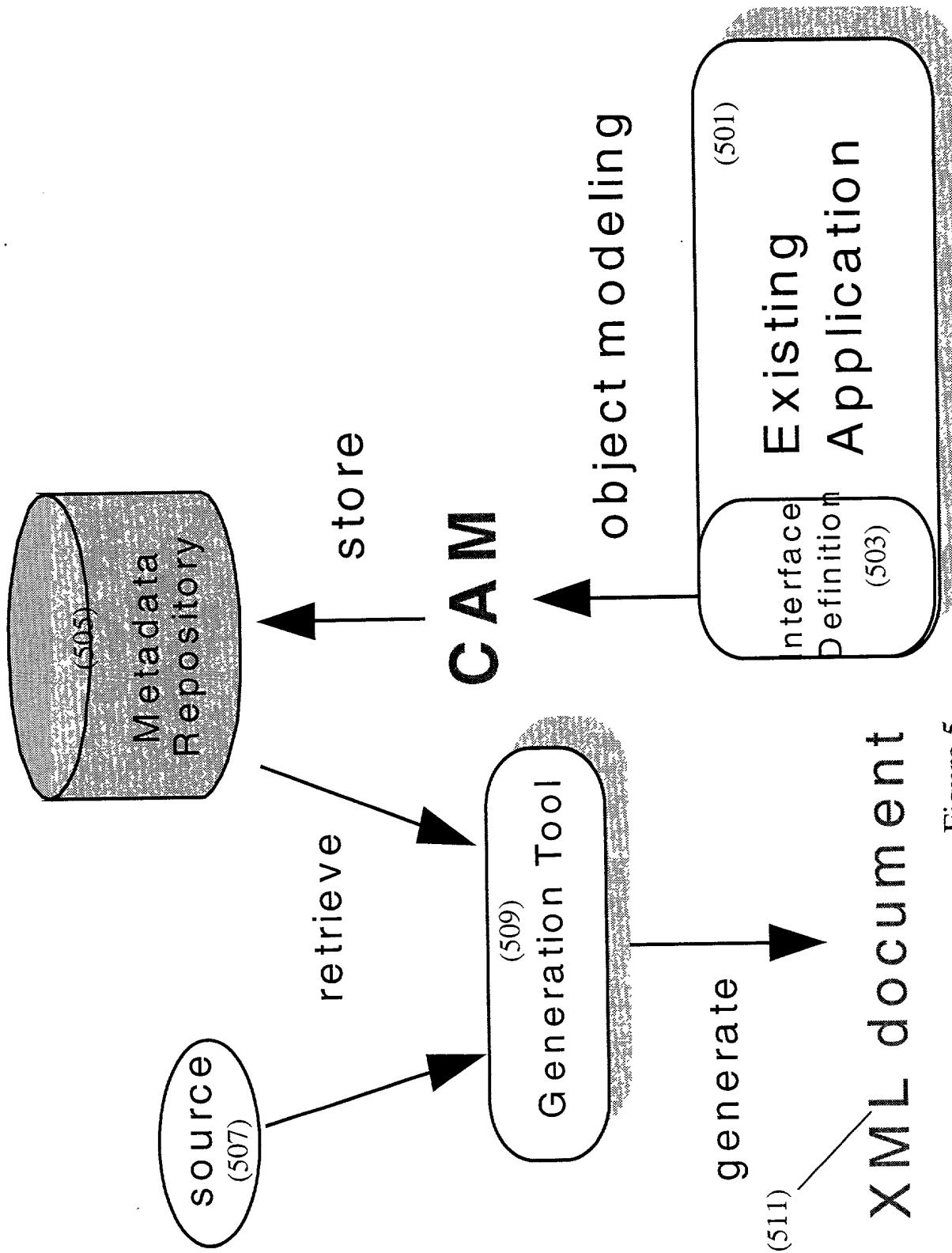


Figure 5

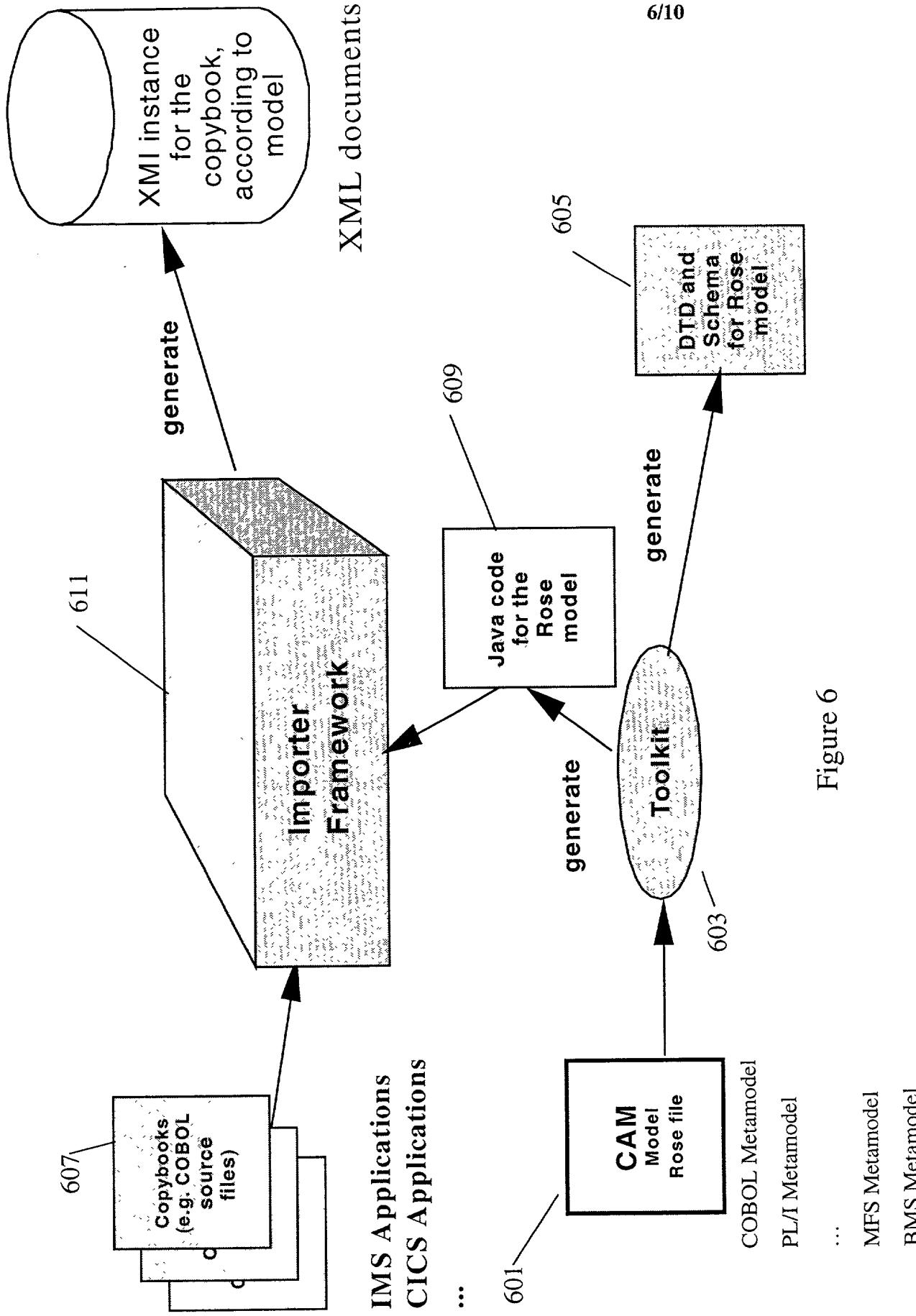


Figure 6

COBOL Metamodel  
PL/I Metamodel  
...  
MFS Metamodel  
BMS Metamodel

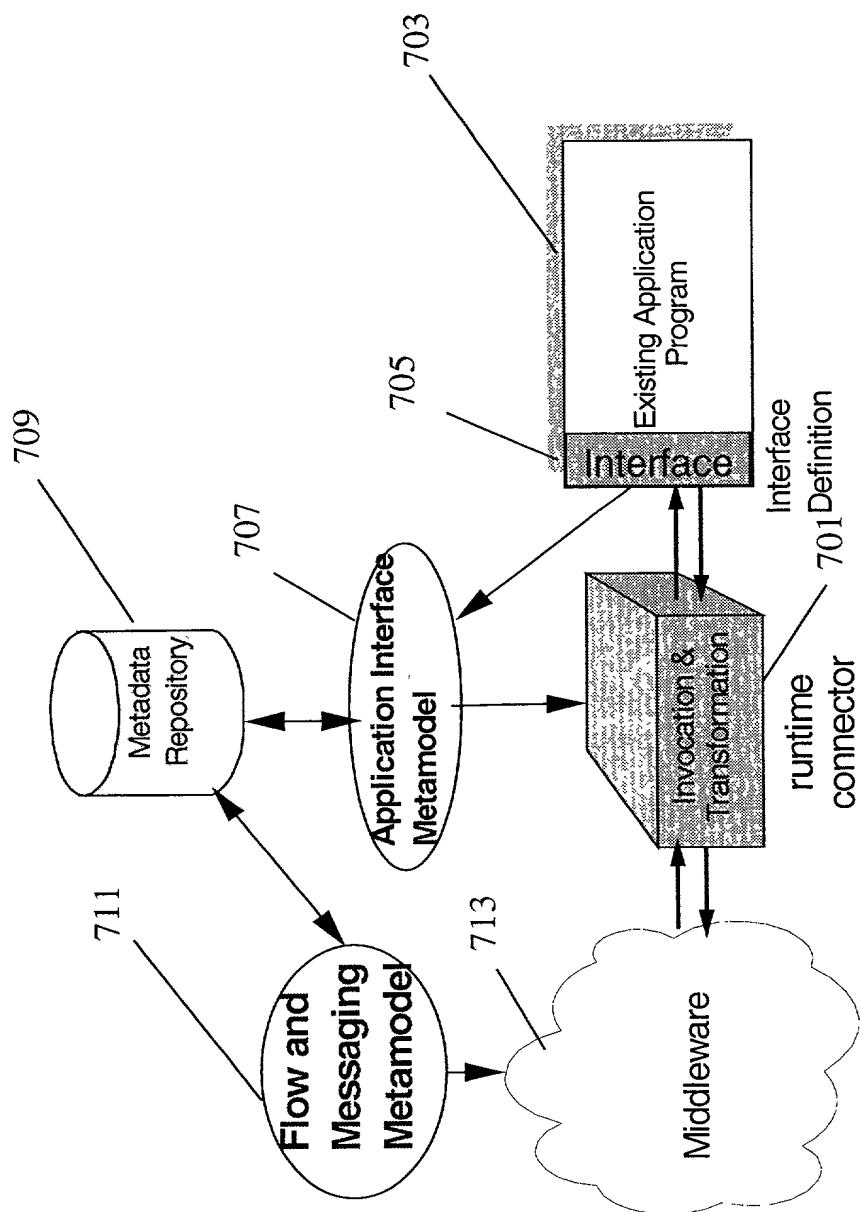


Figure 7

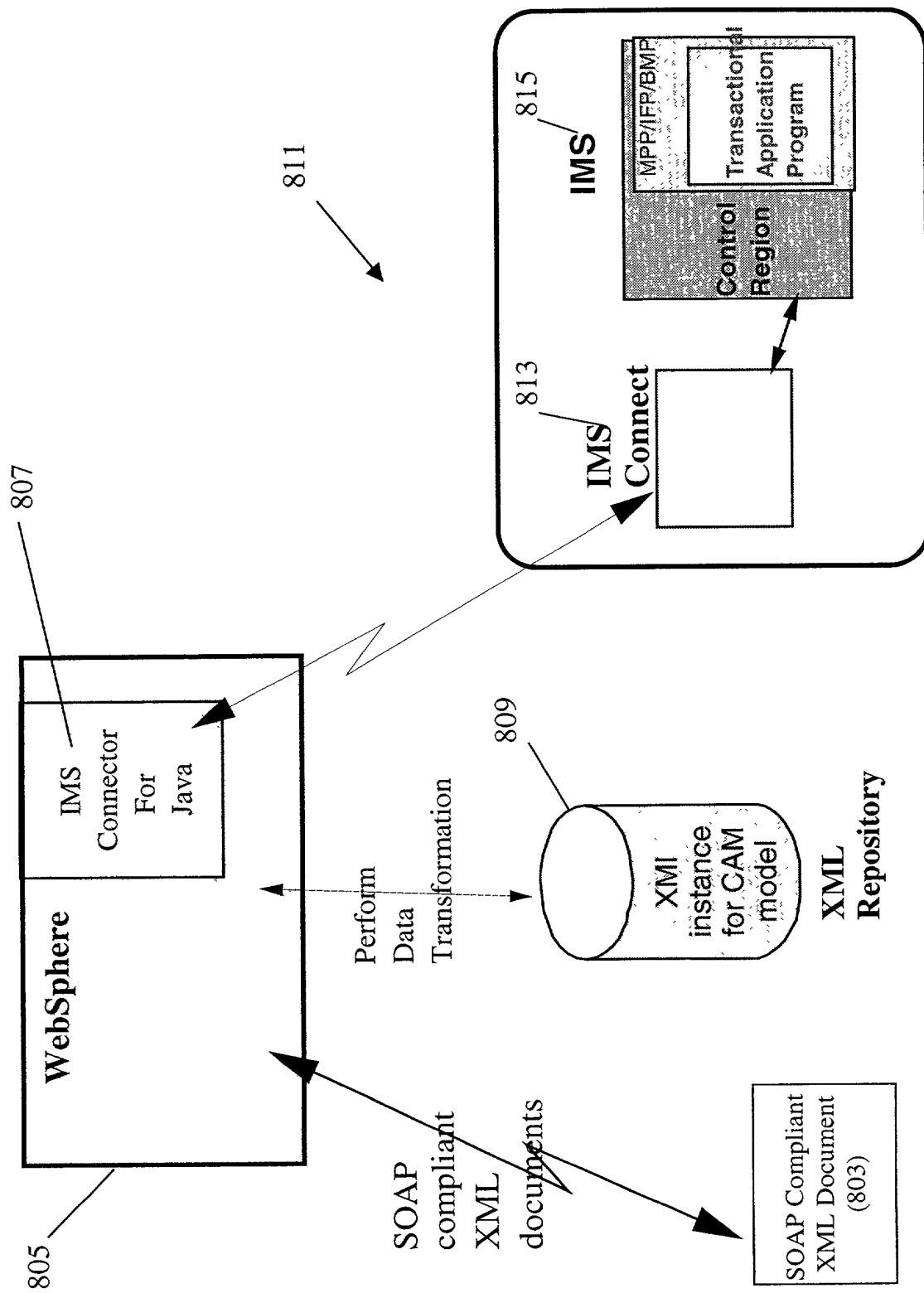


Figure 8

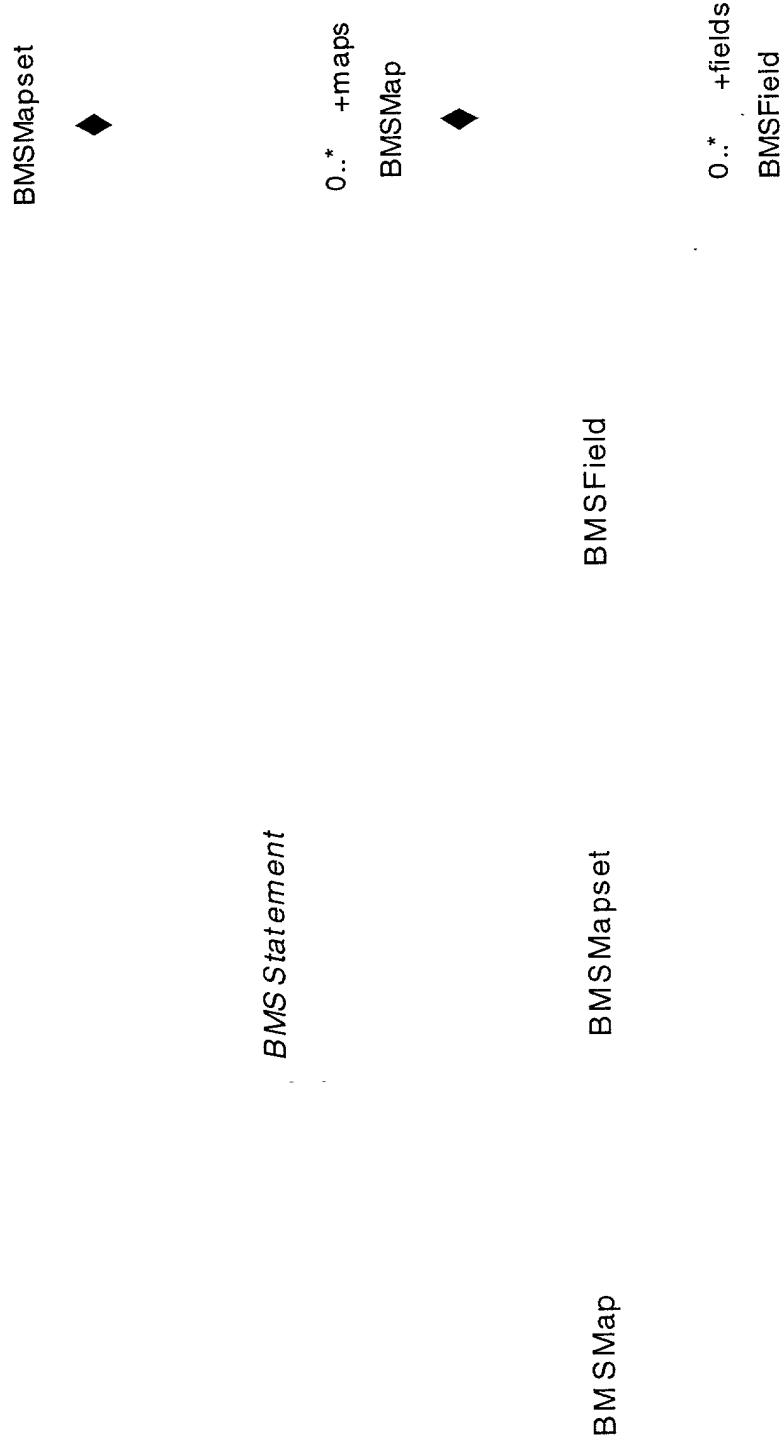


Figure 9

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BMSMapset
base String
color BMSColortype
control BMSControltype
cursorLocation boolean
data BMSSdatatype
descriptionAttributes BMSSAttributestype
extendedAttributes BMSSExtendedAttributestype
fields BMSSeparator String
field BMSSFieldtype
highlighting BMSSHighlightingtype
horizontalTabs int
language BMSSLanguagetype
mapAttributes BMSSAttributestype
mode BMSSModtype
outlineFormatting boolean
outline BMSSOutlineType
partition String
programmedSymbol String
shiftOutShiftIn boolean
size BMSSizetype
terminal String
trailing boolean
trailer boolean
transparent boolean
validation BMSSValidationtype
verticalTabs int

BMSAttributesType
skip boolean
bright boolean
detectable boolean
dark boolean
modified boolean
cursor boolean
numeric boolean
protected boolean
vertical boolean

BMSMapsettype
color boolean
highlighting boolean
outline boolean
programmedSymbol boolean
transparent boolean
validation boolean

BMSMap
column String
color BMSColortype
control BMSControltype
cursorLocation boolean
data BMSSdatatype
descriptionAttributes BMSSAttributestype
extendedAttributes BMSSExtendedAttributestype
fields boolean String
fieldsSeparator String
header boolean
highlighting BMSSHighlightingtype
justify BMSSJustitytype
line String
mapAttributes BMSSAttributestype
outlineAndFormatting boolean
outline BMSSOutlineType
partition String
programmedSymbol String
shiftOutShiftIn boolean
size BMSSizetype
terminal String
trailing boolean
trailer boolean
transparent boolean
validation BMSSValidationtype
verticalTabs int

BMSStatement
label String
comments String

BMSOutlineType
lower upper
m only
no yes
m only

BMSExtendedAttributestype
field block
no yes
m only

BMSValidationtype
box boolean
left boolean
right boolean
off boolean
alarm boolean
reset boolean
blink boolean
reverse boolean
underline boolean
phi boolean

BMSJustitytype
left boolean
right boolean
over boolean
under boolean
phi boolean

BMSPositiontype
line int
column int
number int

BMSValidationtype
out in
in out

BMSHighlightingtype
initialValue String
length int
occurs int
outline BMSSOutlineType
pictureString
pictureString
position BMSPositiontype
programmedSymbol String
shiftOutShiftIn String
transpatent boolean
validation BMSSValidationtype

BMSStatement
label String
comments String

```

Figure 10